

What is claimed is:

Sub A1 >

1. A semiconductor device comprising:
 - a first conductor;
 - 5 a columnar second conductor having a bottom face that is in contact with a top face of the first conductor;
 - a first insulating film that covers the first and second conductors; *1st Para - as it doesn't*
 - 10 a third conductor placed on the first insulating film and having a first end whose bottom face is in contact with a top face of the second conductor; and *1st Para*
 - 15 a second insulating film that covers the third conductor and first insulating film, the second insulating film having a first portion of a first thickness on the second conductor and a second portion of a second thickness on the third conductor wherein the first thickness is thinner than the second thickness.

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- 30 5. The semiconductor device of claim 1, wherein:
 - a plurality of the second conductors are arranged along a straight line.
- 35 6. The semiconductor device of claim 1, wherein:
 - the first conductor has a wire shape.
7. The semiconductor device of claim 6, wherein:
 - the first conductor is in contact with a plurality of the second conductors.
8. The semiconductor device of claim 6, wherein:
 - an end of the first conductor is in contact with the second conductor; and

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the first conductor is in parallel with the third conductor.

9. The semiconductor device of claim 8, wherein:
the first conductor is just under the third conductor.

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10. The semiconductor device of claim 8, wherein the first conductor is obliquely below the third conductor.

11. The semiconductor device of claim 1, wherein:
the first conductor is a semiconductor substrate.

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12. The semiconductor device of claim 1, wherein:
the first conductor is set at a predetermined potential level.

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13. The semiconductor device of claim 1, wherein:
the third conductor is set at a predetermined potential level.

14. The semiconductor device of claim 1, wherein:
the third conductor is mainly made of one of aluminum and copper.

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15. The semiconductor device of claim 1, wherein:
the second conductor is mainly made of one of aluminum, tungsten, silicon, titanium, tantalum, and copper.

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25 16. The semiconductor device of claim 1, wherein:
the second conductor is vertically divided into regions having different main components.

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17. The semiconductor device of claim 1, wherein:
the first conductor is mainly made of one of aluminum, tungsten, silicon, titanium, tantalum, and copper.

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18. The semiconductor device of claim 1, further comprising:
a fourth conductor formed under the first insulating film below the thin area;
a columnar fifth conductor having a bottom face that is in contact with a top face of
the fourth conductor, the fifth conductor being formed below the thin area and passing
through the first insulating film; and
a sixth conductor formed on the first insulating film under the second insulating film

and separated from the fifth conductor, wherein:

the second insulating film has an opening above the fifth conductor.

19. The semiconductor device of claim 18, wherein:

5 the height of the fifth conductor is equal to the height of the second conductor.

20. The semiconductor device of claim 18, wherein:

the height of the fifth conductor is lower than the height of the second conductor.

10 21. The semiconductor device of claim 1, further comprising:

a fourth conductor formed under the first insulating film below the thin area; and

a sixth conductor formed on the first insulating film under the second insulating film and separated from the fourth conductor, wherein:

the first insulating film has an opening on the fourth conductor below the thin area;

15 and

the second insulating film has an opening above the opening of the first insulating film.

22. The semiconductor device of claim 21, wherein:

20 the opening of the first insulating film has taper angles that are small on the fourth conductor side and large on the sixth conductor side.

23. The semiconductor device of claim 1, further comprising:

a fourth conductor formed under the first insulating film; and

25 a sixth conductor formed on the first insulating film under the second insulating film and separated from the fourth conductor, wherein:

the first insulating film has an opening below the thin area; and

the second insulating film has an opening above the opening of the first insulating film.

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24. A semiconductor integrated circuit comprising:

a latch circuit formed on a semiconductor substrate, for holding data corresponding to a voltage applied to an input terminal thereof;

35 a first fuse formed on the semiconductor substrate and having a first terminal connected to the input terminal of the latch circuit, the first fuse being blown if irradiated with a laser beam; and

a second fuse formed on the semiconductor substrate under the first fuse and having a first terminal connected to a second terminal of the first fuse and a second terminal set at a

predetermined voltage level.

25. The semiconductor integrated circuit of claim 24, further comprising:
a third fuse formed on the semiconductor substrate and having a first terminal
5 connected to a second terminal of the second fuse and a second terminal connected to the latch circuit.

26. The semiconductor integrated circuit of claim 24, further comprising:
first memory cells formed on the semiconductor substrate;
10 second memory cells formed on the semiconductor substrate;
a first line formed on the semiconductor substrate and connected to the first memory cells;
a second line formed on the semiconductor substrate and connected to the second memory cells;
15 a decoder formed on the semiconductor substrate and having a first output terminal for providing a signal for selecting the first line and a second output terminal for providing a signal for selecting the second line;
a driver formed on the semiconductor substrate and having an input terminal connected to the first output terminal of the decoder, an output terminal connected to the first line, for supplying a voltage to the first line according to the data stored in the latch circuit and the signal from the decoder; and
20 a replacement circuit formed on the semiconductor substrate and having an input terminal connected to the second output terminal of the decoder and an output terminal connected to the second line, to supply a voltage to the second line according to the data stored in the latch circuit and the signal from the decoder.
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27. The semiconductor integrated circuit of claim 24, wherein:
the first fuse is mainly made of one of aluminum and copper.
30 28. The semiconductor integrated circuit of claim 24, wherein:
the second fuse is mainly made of one of aluminum, tungsten, silicon, titanium, tantalum, and copper.

29. A method of manufacturing a semiconductor device, comprising the steps of:
35 forming a first insulating film and a columnar second conductor on a first conductor;
forming a third conductor on the second conductor and first insulating film;
forming a second insulating film on the third conductor and first insulating film such that the second insulating film is thinned above the second conductor;

determining whether or not the first and second conductors must be disconnected from each other; and

emitting a laser beam toward a contact face between the first and second conductors when it is determined that the first and second conductors to be disconnected from each other.

Add A4 >